UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,495	08/22/2001	Nobuo Mamada	3246/FLK/DIV of 2798/FLK	8056

26304 7590 06/23/2003

KATTEN MUCHIN ZAVIS ROSENMAN
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER
GOFF II, JOHN L

ART UNIT	PAPER NUMBER
1733	7

DATE MAILED: 06/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-7

Office Action Summary	Application No.	Applicant(s)	
	09/934,495	MAMADA, NOBUO	
	Examiner	Art Unit	
	John L. Goff	1733	

-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-26,28-30,32,33,35,36,38 and 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-26,28-30,32,33,35,36,38 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/441,960* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is in response to Amendment B filed on 4/18/03. All previous objections to the claims have been overcome. It is noted the indication of allowable subject matter given in the previous office action is withdrawn as the added limitation is only a capability and not a method step (See the rejections over Blackadar et al. and the admitted prior art in view of Blackadar et al. set forth below).

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102/103

3. Claims 22, 23, 25, and 26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Blackadar et al. (U.S. Patent 6,336,365).

Blackadar et al. are directed to an accelerometer. Blackadar et al. teach a circuit board (710) comprising a front surface and a back surface and lands (704) formed on each surface at substantially plane-symmetrical positions, every two lands are connected to each other by a through hole (702) (See Figure 7). Blackadar et al. teach a multilayer capacitor (708) (e.g. a transducer) comprising a body having dielectric layers (706) and internal electrode layers (P1A, P2A) and a pair of terminal electrodes (714a, 714b) formed on two sides of the body, the dielectric layers and internal electrode layers are connected to the terminal electrodes in a parallel, alternate manner (See Figure 7 and Column 13, lines 19-22). Blackadar et al. teach mounting the multilayer capacitor on the lands of the front surface of the circuit board to form an

accelerometer (Figure 7 and Column 13, lines 22-25). Blackadar et al. teach a second multilayer capacitor may be coupled to the first multilayer capacitor by mounting the second capacitor on the lands of the back surface of the circuit board so that mounting multilayer capacitors on the circuit board does not substantially effect the neutral axis of the accelerometer (Figures 6A-6C and Column 11, lines 39-45 and Column 13, lines 27-31). It is noted Blackadar et al. do not expressly recite the multilayer capacitors of the accelerometer as having the capability of operating at voltages having frequencies varying in the audible frequency band. However, the multilayer capacitors taught by Blackadar et al. are the same as those taught by applicant such that inherently the multilayer capacitors taught by Blackadar et al. could operate at voltages having frequencies varying in the audible frequency band. Furthermore, Blackadar et al. teach his invention is not limited to any particular capacitor such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use in Blackadar et al. any capacitor including multilayer capacitors having the capability of operating at voltages having frequencies varying in the audible frequency band as only the expected results would be achieved.

Claim Rejections - 35 USC § 103

4. Claims 24, 28-30, 32, 33, 35, 36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blackadar et al.

Regarding claims 24, 28, 35, and 36, Blackadar et al. as applied above teach all of the limitations in claims 24, 28, 35, and 36 except for specifically reciting the multilayer capacitors are identical. It would have been obvious to one of ordinary skill in the art at the time the

invention was made to mount identical multilayer capacitors to the lands of the back surface and the front surface of the circuit board so as to not substantially affect the neutral axis of the accelerometer.

Regarding claims 28 and 35, it would have been obvious to one of ordinary skill in the art at the time the invention was made that identical voltages are applied to the multilayer capacitors because the capacitors are coupled to each other by a through hole.

5. Claims 22-26, 28-30, 32, 33, 35, 36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Specification pages 1 and 2) in view of Blackadar et al.

The admitted prior art is directed to mounting a multilayer capacitor on the front surface of a circuit board. The admitted prior art teaches that the multilayer capacitor produces vibrations that cause the circuit board to resonate with the vibrations and produce audible sounds (Specification pages 1 and 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the admitted prior by mounting an identical multilayer capacitor on the back side of the circuit board in the manner as suggested by Blackadar et al. to create a circuit board wherein the multilayer capacitors do not substantially effect the neutral axis of the circuit board and thus vibrations are reduced.

Blackadar et al. are directed to an accelerometer. Blackadar et al. teach a circuit board (710) comprising a front surface and a back surface and lands (704) formed on each surface at substantially plane-symmetrical positions, every two lands are connected to each other by a through hole (702) (See Figure 7). Blackadar et al. teach a multilayer capacitor (708) (e.g. a transducer) comprising a body having dielectric layers (706) and internal electrode layers (P1A,

P2A) and a pair of terminal electrodes (714a, 714b) formed on two sides of the body, the dielectric layers and internal electrode layers are connected to the terminal electrodes in a parallel, alternate manner (See Figure 7 and Column 13, lines 19-22). Blackadar et al. teach mounting the multilayer capacitor on the lands of the front surface of the circuit board to form an accelerometer (Figure 7 and Column 13, lines 22-25). Blackadar et al. teach a second multilayer capacitor may be coupled to the first multilayer capacitor by mounting the second capacitor on the lands of the back surface of the circuit board so that mounting multilayer capacitors on the circuit board does not substantially effect the neutral axis of the accelerometer (Figures 6A-6C and Column 11, lines 39-45 and Column 13, lines 27-31).

Regarding claims 28 and 35, it would have been obvious to one of ordinary skill in the art at the time the invention was made that identical voltages are applied to the pair of multilayer capacitors taught by the admitted prior art as modified by Blackadar et al. because the capacitors are coupled to each other by a through hole.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

John L. Goff
June 20, 2003

STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733

6-20-03